

In re Application of:
Frank Paetzold et al.
Application No.: 09/929,516
Filed: August 13, 2001
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PATENT
Docket No.: EYEM1340

Amendments to the Specification:

Please replace the paragraph at page 1, lines 14-21, with the following amended paragraph:

C1
The present invention is embodied in a method, and related apparatus, for generating facial animation values using a sequence of facial image frames and synchronously captured audio data of a speaking actor. In the method, a plurality of visual facial animation values are provided based on tracking, without using markers on the speaking actor, of facial features in the sequence of facial image frames of the speaking actor, and a plurality of audio facial animation values are provided based on visemes detected using the synchronously captured audio voice data of the speaking actor. The plurality of visual facial animation values and the plurality of audio facial animation values are combined to generate output facial animation values for use in facial animation.

Please replace the paragraph at page 5, lines 11-17, with the following amended paragraph:

C2
The tracking of facial features in the sequence of facial image frames of the speaking actor may be performed using bunch graph matching, or using transformed facial image frames generated based on wavelet transformations, such as Gabor wavelet transformations, of the facial image frames. Wavelet-based tracking techniques are described in U.S. Pat. No. 6,272,231. The wavelet-based sensing allows tracking of a person's natural characteristics without any unnatural elements to interfere with the person's natural characteristics. Existing methods of facial feature sensing typically use markers that are glued to a person's face. The use of markers for facial motion capture is cumbersome and has generally restricted the use of facial motion capture to high-cost applications such as movie production. The entire disclosure of U.S. Pat. No. 6,272,231 is hereby incorporated herein by reference. The techniques of the invention may be accomplished using generally available image processing systems.